

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 62219665
PUBLICATION DATE : 26-09-87

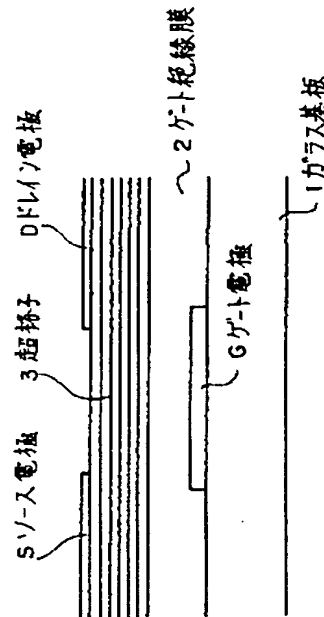
APPLICATION DATE : 20-03-86
APPLICATION NUMBER : 61060843

APPLICANT : FUJITSU LTD;

INVENTOR : YAMAGUCHI TADAHISA;

INT.CL. : H01L 29/78 H01L 27/12 H01L 29/12 //
H01L 29/80

TITLE : SUPERLATTICE THIN-FILM
TRANSISTOR



ABSTRACT : PURPOSE: To obtain the titled transistor, photoconductivity thereof is inhibited and which is difficult to be subject to the effect of stray light and displays stable performance characteristics, by using a superlattice constituted by alternately laminating a large number of a-Si:H layers and a-SiN_x:H layers as a semiconductor layer.

CONSTITUTION: A superlattice 3 organized by alternately laminating a large number of a-Si:H and a-SiN_x:H is employed as a semiconductor layer in a thin-film transistor using an amorphous semiconductor layer. A gate electrode G is formed at a predetermined position on a substrate 1 consisting of glass, etc., a gate insulating film 2 composed of a-SiO₂, etc. is laminated on the gate electrode and a-Si:H layers and a-SiN_x:H layers having prescribed layer thickness (such as 10⁻~100⁻) are laminated alternately in a large number, and the superlattice 3, the whole layer thickness thereof is brought to approximately 2,500⁻, is shaped in a stratified manner. A source electrode S and a drain electrode D are formed at predetermined positions on the superlattice 3, and carriers flowing in the superlattice 3 are controlled by applied voltage to the gate electrode G between the source electrode S and the drain electrode D.

COPYRIGHT: (C)1987,JPO&Japio